Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

In the Matter of	)	
	)	
Spectrum Policy Task Force Inquiry	)	ET Docket No. 02-135
	)	

COMMENTS

The PART-15 Organization (PART-15.ORG), by its membership and pursuant to the Commission's *Public Notice* released June 6, 2002, hereby submits its comments in response to the questions raised by the Commission's Spectrum Policy Task Force in the above-captioned proceeding.

As the Commission is aware, the PART-15.ORG is a worldwide coalition of Wireless Internet Service Providers ("WISPs") and equipment vendors who provide technical support and training in the provisioning of broadband service via license-exempt spectrum in the 902-928 MHz, 2.4 GHz and 5 GHz bands. The PART-15.ORG voices our regulatory concerns via the License Exempt Alliance (LEA) who are active in a number of Commission proceedings that directly or indirectly pertain to the license-exempt industry. The PART-15.ORG fully indorses and supports the LEA filing on this matter and submits on our own behalf the following.

Because there is no regulatory requirement for identification – we "believe" there are approximately 8000 small WISPs nationwide. We further believe that by the end of this year, more than 1 Million customers will be served by the small WISPs use of the unlicensed spectrums.

The PART-15.ORG agree with the LEA in that the Task Force's inquiry will lay the groundwork for a meaningful reassessment of the Commission's regulatory framework for the license-exempt industry, and the PART-15.ORG appreciates the opportunity to contribute to that process.

As our organization is comprised largely of members using the license-exempt spectrums, we will limit our response to those issues associated with the unlicensed bands only.

With regards to question number 1 – *What specific policy and rule changes are needed to migrate from current spectrum allocations to more market-oriented allocations?* We believe that current commission rules (specifically Part 15) should reflect a more current utilization of the unlicensed spectrum and encourage the commission to update and enhance those regulations and policies pertaining to Broadband Wireless Access (BWA).

Commission rules should foster the perpetuation of growth in the use of the unlicensed spectrums that provide BWA. What may have been founded on accident, has now become what we feel is the nations best asset for providing BWA in not just metropolitan areas but urban and rural areas as well. We are confident that the commission is aware that most of the urban and rural areas in America are still without broadband access. However, as the commission is also aware, it appears that the smaller WISPs are (by far) leading the way in providing such services utilizing the unlicensed frequencies.

The previous commission efforts are to be commended for this current growth. However, many commission policies and procedures are no longer an effective tool for managing the unlicensed spectrum as it is being used today in providing BWA. At present, our organization is preparing, (in association with the LEA), draft recommendations that the LEA will present formally to the commission in our behalf.

With regards to question number 4 – *Should more spectrum be set aside for operating unlicensed devices? Should the kinds of permissible unlicensed operations be expended? What changes, if any, should be made to the rules to accomplish this? Because of the common aspects of unlicensed use, it there concern that, as congestion rises, spectrum may not be put to it highest valued use? If so, what policies might be considered to anticipate this problem?*

We believe that more unlicensed spectrum (below 6GHZ) is needed to fulfill the BWA market. There is an abundance of technical reasons for seeking the additional frequencies. The most prevalent is to overcome the Line-of-Sight (LOS) requirements needed above 1GHZ. Additional 900MHZ, 2.4GHZ and 5GHZ unlicensed spectrums could be the determining factor of whether BWA is available to much of the nation and is especially important in urban and rural areas where mother nature is at her best with beautiful tree canopy's.

The permissible unlicensed operations could be expanded to include a separate and distinct reference for BWA purposes. As a WISP, one of our membership companies explained to us that over 65 sources of unlicensed interference were prevalent within a one-mile radius of one of their BWA repeater sites and most of these sources of interference were coming from unlicensed "indoor" home-use products, such as home-wireless-LAN devices sold through local retailers. We feel strongly that there would be no logical reason for unlicensed "indoor" devices to have the capability necessary to transmit up to one mile away. We are not aware of any structures within the United States that are one mile in diameter. One specific source of interference pertained to the use of two omni antennas being used in a one-quarter mile point-to-point configuration. PART-15.ORG considers this a very poorly designed system and not in keeping within the highest industry standard for use of the unlicensed spectrum. Additionally,

these types of poorly designed deployments do nothing for the unlicensed “good neighbor” policy the WISP industry tries to foster.

PART-15.ORG believes that a separate and distinct difference should be in place for the dissimilar usages of the unlicensed frequencies. We believe that BWA equipment should not be in the same category as “indoor” home-use devices.

To accomplish this, a viable solution cannot be forthcoming overnight or by the stroke of a pen. It will take every bit of the commissions efforts to seek industry agreement and cooperation to conclude a “best” scenario for the use of unlicensed “outdoor” use regulations.

Some consumers believe better service means unlimited upload and download ability, while other consumers believe better service means reliability. It is a business model decision for each WISP to determine which approach they will take. Some WISPs concentrate on the business consumers, while others put their efforts towards residential consumers. Either direction will still have interference issues that must be overcome to succeed; therefore the importance of dealing with unlicensed interference is still a major concern regardless of the business approach taken to provide BWA services.

We are not so confident that putting a “value” on the unlicensed spectrum would be the best approach. We are however concerned with the efficient use of the unlicensed spectrum and would suggest the commission concentrate their efforts in this area. For example -- The current commission rules pertaining to the use of amplifiers is well received by most operators. Rules such as these could and should be enhanced to facilitate the efficient use of the spectrum to a greater capacity, thereby allowing more usage of the unlicensed spectrum.

With regards to question number 6 - *How can the Commission better facilitate the experimentation, innovation and development of new spectrum-based technologies and services*

through, for example, changes in its experimental licensing rules, increased use of developmental authorizations or promoting demonstration projects?

PART-15.ORG feels very strongly in protecting the experimental, innovation and development of new spectrum-based technologies and services. However, as mentioned earlier in this response, we believe that a separation needs to exist to facilitate the "new" widespread usages of the unlicensed spectrums as they relate to BWA. Since the use of "indoor" unlicensed wireless LAN equipment is relatively new in the area of providing outdoor WWAN (Wireless Wide Area Networking) present commission rules and policies should reflect this "new" advancement in technology and usage.

Many of the worlds leading wireless manufactures (Orinoco and Alvarion for example) are providing equipment designed specifically for unlicensed "outdoor" BWA deployments and presently still come under the "indoor" commission rules. Along the same lines, we the WISPs must endure those same "indoor" rules when deploying a large-scale "outdoor" system.

We would like to propose (given the appropriate time) and through our LEA counsel, a separate set of guidelines similar to those of Part 15 of the Telecommunications Act but showing a separate and distinct set of rules and policies for the use of unlicensed "outdoor" spectrum use.

With regards to question number 7 – *Are new definitions of "interference" and "harmful interference" needed? If so, how should the terms be defined?*

PART-15.ORG believes that new and expanded definitions of "interference" and "harmful interference" are needed in the unlicensed spectrums. A broad range of interference consideration is needed along with the separation of "indoor" and "outdoor" devices. Current commission rules pertaining to interference and harmful interference only apply to licensed frequencies and equipment with the exception that unlicensed equipment must not cause harmful

interference, but must accept any and all interference. Again, this is where we recommend the commission pursue a line of distinction between equipment designed for indoor use and that designed for outdoor use.

We recommend that the current rules be changed to reflect a distinction between indoor and outdoor equipment. Furthermore the current rules, with minor modifications could remain for indoor equipment. While equipment designed for outdoor use will require a completely revised (or new) set of rules. The modifications pertaining to indoor equipment could reflect a decrease in power (maximum allowable EIRP), or restrictions on the use of specific antennas. The new rules required for outdoor use would require coverage of interference issues, higher power levels (if applied in such a fashion as to not cause "significant" interference with other uses in the unlicensed spectrum), and restrictions on certain antennae, along with other "outdoor" specific guidelines.

We also recommend the commission review the current rules of maximum allow emissions (EIRP) and provide a distinction and separate rule as it pertains to "congested" spectrums and "un-congested" spectrums. e.g. In rural areas where unlicensed frequencies are seldom in use, more radio power could be allowed to overcome distance and LOS issues. However, in a more frequency "congested" area, a stricter EIRP policy should be implemented.

With regards to question number 15 - *In lieu of, or to complement, technical rules related to interference, are there processes that the Commission could consider that would allow private parties to more expeditiously resolve interference issues and disputes, for example, through negotiated agreements, mediation, arbitration or case-by-case adjudication?*

PART-15.ORG strongly supports an opportunity for binding arbitration as it relates to interference issues in the "outdoor" unlicensed spectrums. Under present commission rules, the

only recourse a WISP has in dealing with unlicensed interference issues are in civil court. Without some form of unlicensed spectrum protection against interference, those 8000+ smaller WISPs run the risk of inability to provide BWA to the urban and rural communities and some 40,000 workers could be out of jobs along with almost 1,000,000 consumers with out service. This organization believes that appropriate allocation and application in specific areas are warranted and should be dealt with on a case-by-case basis. Arbitration of these cases could be used in such a fashion as to mandate (on a local level) specific guidelines to facilitate cooperation of competitors when pertaining to interference. We feel that most cases of interference can be resolved through proper RF and technology engineering. Furthermore this would be in keeping with the philosophy of the "good-neighbor" policy of the unlicensed WISP industry.

PART-15.ORG is currently reviewing the prospect of regional cooperation agreements among the unlicensed WISP community as a self-policing effort. In accomplishing such agreements, there presently remains no recourse other than civil proceedings for those wishing to not take part in the self-policing efforts and who cause unnecessary interference. We believe that Federal authority mandating arbitration of "outdoor" unlicensed interference would enhance the prospect of cooperation and lead to better-deployed use of the spectrum. We recommend the commission endorse such efforts. Issues such as unlicensed interference and competitive cooperation are among the highest priorities of this organization.

With regards to question number 16 - *Some parties assert that the Commission should adopt rules for interference that are based on economics, and not purely technical, in nature. They argue that efficient interference management should involve an economic balancing*

between the parties using the spectrum. Would greater use of these types of alternatives lead to more certain and expeditious resolution of interference issues?

PART-15.ORG does not agree with the inference that economics should be a factor in determining interference issues. It is very plausible that many will spend a lot of money on a poorly designed wireless deployment. Such a poorly designed system, although economically more feasible for some, would only lead to undue hardships on those WISPs deploying technologically (from an RF engineering standpoint) "better" deployments. In other words, having more money does not always ensure that "best" standards are practiced. Along the same lines, having a larger market share over a competitor does not always ensure "best" practices and industry standards are utilized.

We feel strongly that no one should be encouraged to deploy improperly designed networks regardless of the economical basis for such a deployment. Incorrectly deployed systems, or "bad" choice decisions should not be a determining factor on interference issues. We further believe that this type of action by the commission would be a prelude to a market monopoly and stifle industry growth.

With regards to question number 18 - *Do any existing Commission rules inhibit efficient use of the spectrum? If so, how should they be changed?*

PART-15.ORG recommends that the current rule of "system" certification (15.247) should be relaxed or modified to allow the spirit of the intent of the rule to outweigh the wording of the rule.

We believe the intent of the rule is to not exceed maximum EIRP. However, the current "system" certification process restrains the creativity of the "Professional Installer". Maintaining the maximum allowable EIRP can be accomplished in a number of ways and should be left to the

discretion of the installer. The "Professional Installer" has many tools available at his disposal to ensure maximum EIRP (the intent) is not exceeded; length and type of cable used, (certain cables have different power losses associated with them), specific antenna selection (a stronger powered antenna may have a tighter beamwidth thereby causing less interference to surrounding users) and the use of "directional" antennas in lieu of omni directional. These are just a few of the many other options that can be utilized by the "Professional Installer" to ensure the intent of the rule (max EIRP) is complied with.

We encourage the commission to review this organizations "Professional Installer Certification" program along with many of the other "industry standards set by this organization. This training and certification program (along with our other training programs and certifications), provide an excellent example of the WISPs industry taking the lead to ensure deployments are the least intrusive (interference wise) as possible in the unlicensed frequencies. Most of what PART-15.ORG tries to accomplish is to provide the technical assistance and training needed to provide WISPs free use of Part 15 devices that are driven by and in accordance with sound engineering practices. PART-15.ORG stands ready to work with the commission and other private organizations such as the LEA in securing a more meaningful use and protection of the unlicensed spectrums.

Respectfully submitted,

PART-15 ORGANIZATION

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